Volkswagen Cabriolet DIY Guide

Power Top

Power Top Operation

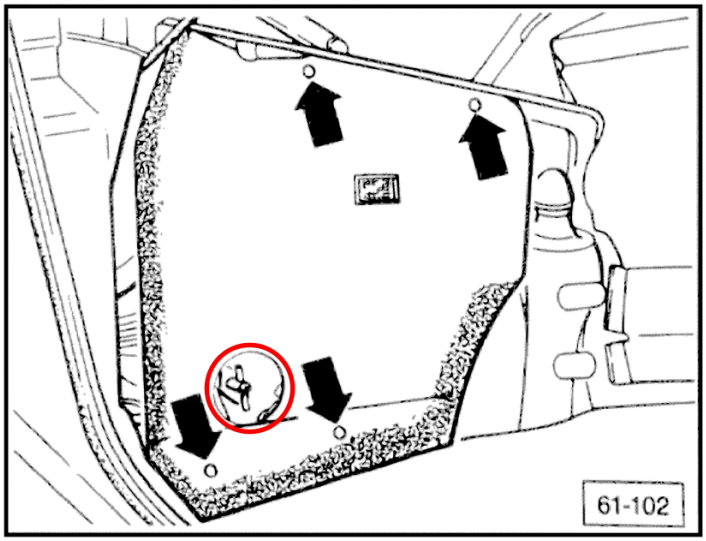
The electro-hydraulic power top system utilizes a bi-directional electric motor and pump unit to supply pressure to two hydraulic cylinders that operate the top mechanism. A system control unit, comprised of 4 identical relays, provides power and ground for the motor. The motor-pump unit, hydraulic cylinders, and control unit are mounted behind the left-side panel in the luggage compartment.

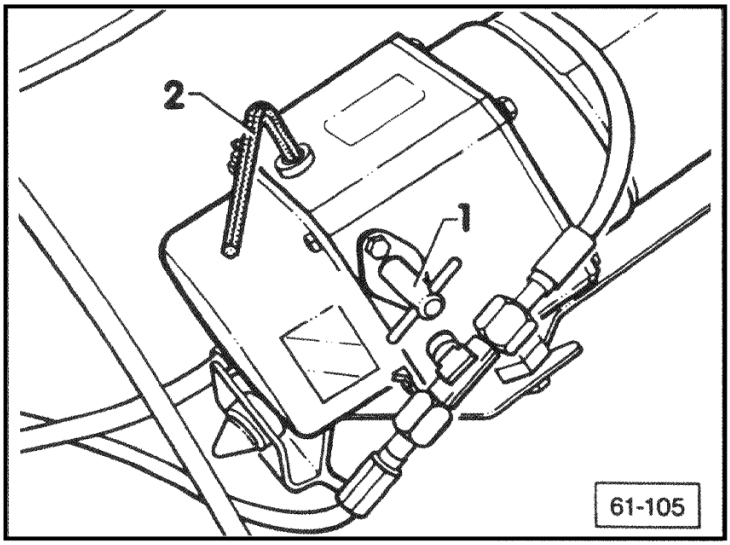
Power is provided by the ignition switch's "Su" circuit. This means that the system is powered when the key is inserted into the ignition switch, but without switching on the ignition. A wire in the convertible top boot (cover) completes the ground circuit when snapped into position. The control unit interrupts power to the hydraulic pump motor. When the top is down, the boot should always be installed.

A 20A circuit breaker/thermos-fuse mounted to the top of the main fuse/relay panel protects the circuit against overload if, for example, someone trying to lower the top has neglected to unlock the front latches. It will interrupt power to the system, then cool, and reset after another 30 to 35 seconds.

Emergency Operation

The top boot (cover) must not be installed. To operate the top manually, open the luggage compartment, find the access hole in the trim panel (red circle below), and locate the T-shaped thumb-screw just inside the hole (1 in illustration below). Turn the thumb-screw all the way to the left, counterclockwise, until it stops. This opens a bypass port in the hydraulic system. The top can now be raised or lowered manually.





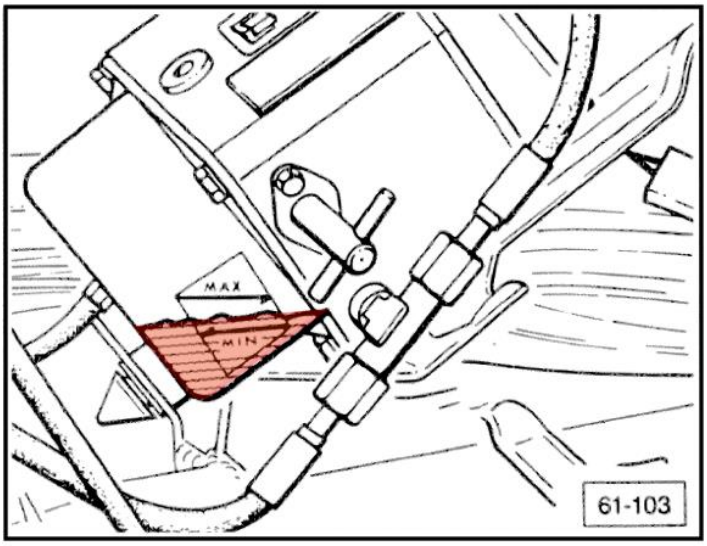
CAUTION:

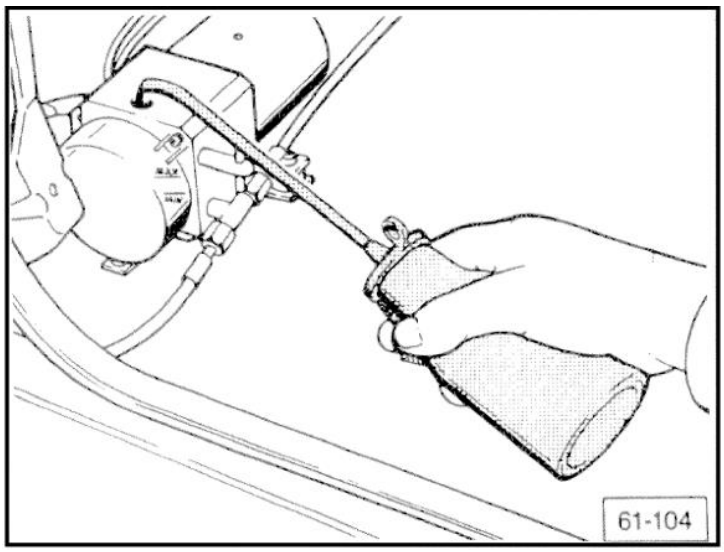
- Raise or lower both sides gently and evenly.
- When raising the top, be sure to lock in the J-hooks at the front.

Checking and Correcting Hydraulic Oil Level

Check hydraulic oil level at the indicator on the side of the hydraulic pump housing. The level should be between the **MIN** and **MAX** marks.* If the oil level is below the **MIN** mark, add oil according to the procedure below.

1. Carefully remove the left-side trim panel (clip location indicated above by arrows).
2. Use a 5mm hex wrench to open the oil filler plug (2 in illustration above).
3. Add oil through the filler hole until the level indicated is between the **MIN** and **MAX** marks.
4. Reinstall the filler plug. Leave it slightly loose, just enough to allow air to slowly escape.
5. Insert the key into the ignition switch, but do not switch the ignition on.
6. Actuate the power top switch to raise and lower the top four or five times. End this step with the top lowered, in the open position.
7. Recheck the fluid level and correct it as necessary.
8. Tighten the oil filler plug.





* Hydraulic oil level must be checked with the top lowered, in the open position. Oil level is slightly lower with the top closed.

Bleeding the Hydraulic System

Bleeding may be required to purge air from the hydraulic system, if the top does not go up and down smoothly, or if lines have been disconnected. For access, unclip and remove the left side luggage compartment trim panel.

To bleed the system:

1. Turn the thumb-screw on the hydraulic pump housing all the way to the left, counterclockwise, until it stops.
2. By hand, lower the convertible top to its open position, raise it to its closed position, then lower it again.
3. Turn the thumb-screw on the hydraulic pump housing all the way to the right, clockwise, until it stops.
4. Check the hydraulic oil level and add oil as necessary, as described above.
    a. Hydraulic oil level must be checked with the top lowered, in the open position. Oil level is slightly lower with the top closed.

Component Removal & Installation

There are three things to bear in mind any time the hydraulic system has to be opened. First, the system operates at very high pressure. It must be assumed that there is some residual pressure in the system at all times. Next, cleanliness is very important. Care must be taken to keep dirt or other contaminants from entering the system. Finally, it is necessary to check the hydraulic oil level and bleed the system of air any time it has been opened.

Before loosening any hydraulic fitting:

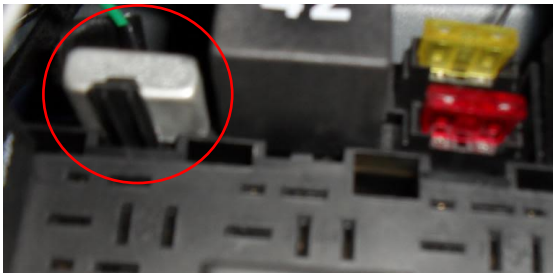
1. Disconnect the battery negative (-) terminal.
2. Slowly loosen the oil filler plug, just enough to allow air to slowly escape. There may be a hissing sound as air escapes.
3. Have a suitable container handy and be prepared to catch any oil that may escape as fittings are loosened.
4. Carefully note (photograph, if need be) the location and routing of hoses before disconnecting any fittings.

CAUTION:

- Clean all connection points before loosening or removing components of the hydraulic system.
- Dirt and dust should not be allowed to enter the system.
- Cover parts that have been removed. Use plastic or paper. Do not use rags.

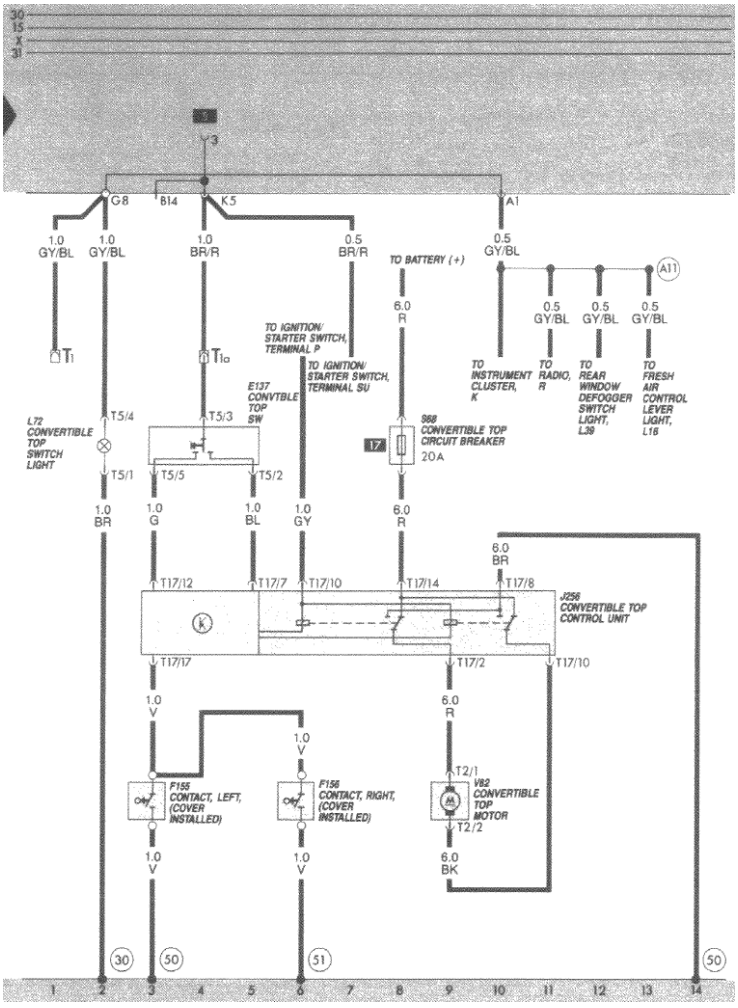
Electrical

Relays, connectors, and wiring in luggage compartment

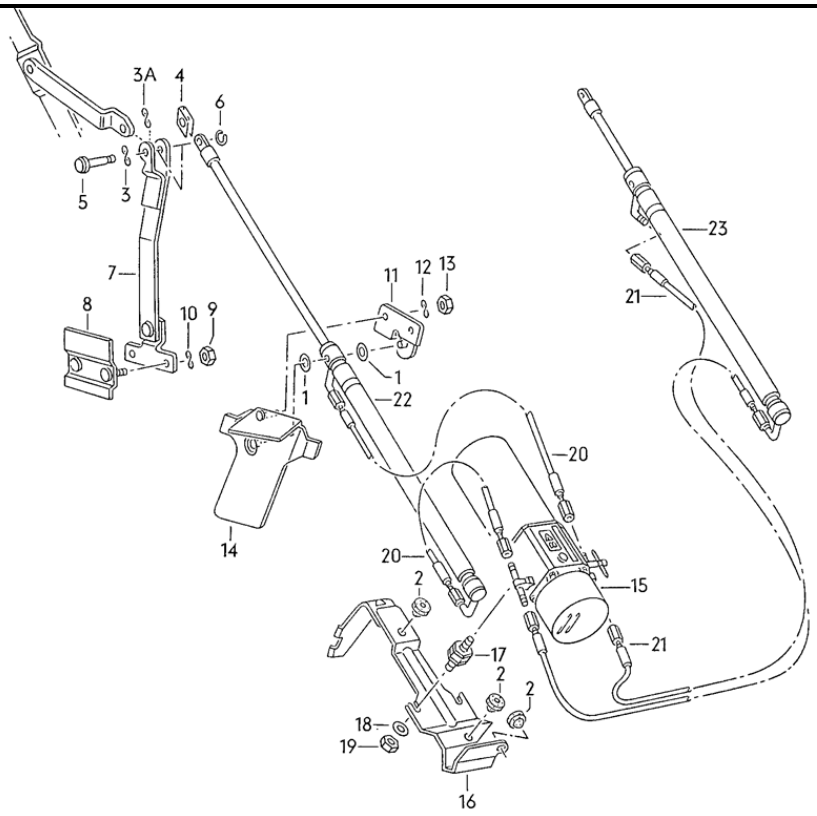


20A thermos-fuse on relay panel

The Volkswagen current track wiring diagram at right, which appears in the Bentley Service Manual, shows a single control unit, instead of the four individual relays and related wiring that the Karmann factory actually installed.



Primary Power Top Components



Diag. #	Component Name	Volkswagen Part #	Notes	Photo Example
7	Guide Rod	155871773A	Left	
		155871774A	Right	
14	Support	155803455	Left	
		155803456	Right	
15	Hydraulic Pump	155871791		
16	Bracket	155803461		

20	Pressure Hose	155871793	480MM	
21	Pressure Hose	155871794	1680MM	
22	Hydraulic Cylinder	155871795	Left	
23	Hydraulic Cylinder	155871796	Right	
	Switch	155959855B	Location: Dash, left of steering wheel Center console	
	Hydraulic Fluid	G004000M2 G002000 G004000M7 G004000A7 G004000M8 G002000A8		
	Relay	191927841	4 required	
	Thermo-fuse	443937105	20A	

Pump and guide rebuild service: https://tophydraulics.com/volkswagen/837-vw-cabrio-mk1-hydraulic-system-upgrade.html

Hydraulic hoses: https://www.cabriolet-roof-hoses.com/hydraulic-roof-hoses/volkswagen/volkswagen-golf-mk1-cabriolet-hydraulic-cabriolet-roof-hoses

* * * The information contained in this document is for reference/entertainment use only and may contain accidental inaccuracies. Be sure to double-check all part numbers and/or equipment prior to ordering and installing any of these components. Remember: **You** are responsible for **your** car. Cabby-Info.com, KamzKreationz, VAG, VWoA, or anyone else are not responsible if anything goes wrong while **you** or your technicians are working on, in and under **your** car! Use this information at **your** own risk!* * *